

Biosolids Agronomic Rate Calculation Worksheet

General Information

Ohio EPA #	59-00141
Field ID #	MOS-14-01
Generator Name	Emerald BioEnergy

Biosolids Data and Beneficial Use Methods

Ammonia Nitrogen	59200.00mg/kg
Total Kjeldahl Nitrogen	131000.00mg/kg
Total Phosphorus	24500.00mg/kg
Organic Nitrogen	143.60lbs/ton
Available Nitrogen	161.48lbs/ton
Phosphate (P ₂ O ₅)	56.11lbs/ton
Will Immediate Incorporation / Injection be performed?	Yes

Beneficial Use Site Information

Soil Phosphorus	49.50ppm	Mehlich 1
	43.56ppm	
Please note that the agronomic rates and phosphorus index have been calculated within the <i>Calculated Agronomic Rates</i> section; however, based upon the above provided <i>Soil Phosphorus</i> result, you must utilize the most limiting factor or the <i>Phosphorus Index</i> .		
The Nitrogen Agronomic Rate, the Multi-Year Phosphate Agronomic Rate, or the Phosphorus Index.		
County	Morrow	
Soil Type	Pewamo silty clay loam	
Hydrologic Soil Group	C	
Year 1	Crop 1	Crop 2
Crop Type(s)	Corn (Grain)	Crop 3
Expected Crop Yield(s) (bu/acre or tons/acre)	180	Crop 4
Year 2	Crop 1	Crop 2
Crop Type(s)	Soybean	Crop 3
Expected Crop Yield(s) (bu/acre or tons/acre)	50	Crop 4
Year 3	Crop 1	Crop 2
Crop Type(s)		Crop 3
Expected Crop Yield(s) (bu/acre or tons/acre)		Crop 4
Year 4	Crop 1	Crop 2
Crop Type(s)		Crop 3
Expected Crop Yield(s) (bu/acre or tons/acre)		Crop 4
Year 5	Crop 1	Crop 2
Crop Type(s)		Crop 3
Expected Crop Yield(s) (bu/acre or tons/acre)		Crop 4
Crop Nitrogen Requirements (Year 1)	215 lbs/acre	
Existing Available Nitrogen	lbs/acre	
Non-Biosolids Nitrogen Application	lbs/acre	
Phosphate (P ₂ O ₅) Fertilizer Application	lbs/acre	
Non-Biosolids Organic Phosphate (P ₂ O ₅) Application	lbs/acre	
Biosolids Phosphate (P ₂ O ₅) Beneficial Use	74.70lbs/acre	
Total Organic Phosphate (P ₂ O ₅) Fertilizer Application	74.70lbs/acre	

Phosphorus Index

Soil Loss	5 tons/acre/year	Subvalue	5
Connectivity to "waters of the State"	Concentrated flow does not leave the beneficial use site and is not adjacent to an intermittent or perennial stream.		0
Runoff Class - Slope Range	1-3%		4
Soil Phosphorus			3.05
Application - Phosphate (P ₂ O ₅) Fertilizer			0
Method - Phosphate (P ₂ O ₅) Fertilizer	None applied.		0
Application - Organic Phosphate (P ₂ O ₅) Fertilizer			4.48
Method - Organic Phosphate (P ₂ O ₅) Fertilizer	Immediate incorporation or applied on ≥80% cover.		0.5
Does runoff flow through a filter strip designed per USDA Ohio-NRCS Field Office Technical Guide Standard 393?	No		0
Total Phosphorus Index			17.03

Calculated Agronomic Rates

Nitrogen Agronomic Rate	1.33	dry tons/acre
i. Calculated Agronomic Rate	1.33	dry tons/acre
Single Year Phosphate Agronomic Rate	1.28	dry tons/acre
Multi-Year Phosphate Agronomic Rate	2.00	dry tons/acre
Phosphorus Index	Medium potential for phosphorus runoff. Use the Nitrogen Agronomic Rate.	

Beneficial Use Site Records

Quantity of Biosolids Beneficially Used	358	dry tons
Phosphate (P ₂ O ₅) Beneficially Used Per Acre	235.88	lbs/acre
Acres	170.3	
Date Biosolids Delivered to Beneficial Use Site	4/30/2018	
Dates of Beneficial Use	4/30/2018	to 5/4/2018
Total Days Biosolids Stored at Beneficial Use Site	0.00	Days
Date Signage Posted at Beneficial Use Site	4/15/2018	<input type="checkbox"/> Yes
Date Signage Removed from Beneficial Use Site	5/11/2018	<input checked="" type="checkbox"/> No
Is a permanent sign posted at the beneficial use site?		